

SOME ALLIES OF RYNCHOSPORA MACROSTACHYA.

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THE only Rynchosporas of the large-fruited series which are found from New Jersey to Massachusetts are referred to *R. macrostachya* Torr. and *R. macrostachya*, var. *inundata* (Oakes) Fernald, although Dr. Britton, who does not recognize the specific distinctness of *R. macrostachya*, refers both these plants to *R. corniculata* (Lam.) Gray. A recent examination of the New England material, however, has brought to light certain heretofore overlooked characters, which indicate conclusively that *R. macrostachya* is specifically distinct from *R. corniculata*, and, at the same time, that the little plant described by William Oakes from West Pond, Plymouth, Massachusetts, as *Ceratoschoenus macrostachys*, β . *inundatus*¹ is specifically distinct from both. This latter discovery is particularly gratifying in view of Oakes's observation when he originally described the plant, that "This variety appears at first sight like a distinct species." Oakes, it would seem, was deceived by the assumption that the occurrence of his variety from West Pond "in deeper water than the common one" was "the cause of its different appearance."

R. macrostachya is a non-stoloniferous plant, the new autumnal shoots being erect and arising from within the old sheaths and growing close to the old culms. The plant described by Oakes as var. *inundata* is a comparatively rare plant, found, so far as known, at a single pond in Plymouth County, Massachusetts, in one or perhaps two ponds on Long Island, and at only a few stations in New Jersey, and all the material shows it to be loosely stoloniferous, the new horizontal leafless offshoots being a decimeter or more in length. The plant is very much smaller in all its parts than *R. macrostachya*, growing much lower, only 2-6 dm. high, and having much more slender leaves and shorter spikelets. The striking difference in the habit of the plant has already been emphasized by Oakes and again by the present writer,² *R. macrostachya* having the branches of the large inflorescences strongly fastigate, the primary glomerules with 10-50 spikelets. Var. *inundata*, on the other hand, has the inflorescence diffuse, the primary glomerules with few spikelets (1-6). But the most pronounced differences are found in the mature fruits. In *R. macrostachya* the mature achene is

¹ Oakes in Hovey's Mag. vii. 185 (1841).² Fernald, RHODORA, xviii. 164 (196).

5–6 mm. long, 2.6–3 mm. broad; the tubercle 1.9–2.2 cm. long; and the 6 bristles mostly 1.1–1.4 mm. long. In Oakes's variety the mature achenes are 4.2–4.8 mm. long, 2.2–2.6 mm. broad; the tubercle 1.5–1.7 cm. long; and the bristles 0.9–1.1 cm. long. It thus seems that the plant which is passing as *R. macrostachya*, var. *inundata* is clearly distinct from *R. macrostachya* and should be called

RYNCHOSPORA *inundata* (Oakes), n. comb. *Ceratoschoenus macrostachys*, β . *inundatus* Oakes in Hovey's Mag. vii. 185 (1841). *R. macrostachya*, var. *inundata* Fernald, RHODORA, viii. 164 (1906).

When the present writer transferred Oakes's variety to *Rynchospora* he identified with it Chapman's Florida plant, which was originally described as *Ceratoschoenus macrostachyus*, var. *patulus* in 1860.¹ This variety of Chapman's is considered by Britton a variety of *R. corniculata*, with which Britton unites *R. macrostachya*, but it has characters which separate it very definitely from all three species. Like *R. inundata*, this Florida plant is loosely stoloniferous and has the diffuse inflorescences, which characters separate it at once from *R. macrostachya*; and its achene is much shorter than in the non-stoloniferous *R. macrostachya* but very much broader than in the stoloniferous *R. inundata*, while its tubercles and bristles are shorter than in either of those species. From *R. corniculata*, which the plant resembles, it is separated at once by its shorter achene, shorter tubercle and much longer bristles. This plant, of which there is a large amount of material in the Gray Herbarium, collected by Chapman and others in Florida, and some specimens from north to South Carolina, has the achenes 4.2–4.6 mm. long, 3–3.5 mm. broad, the tubercle 1–1.4 cm. long, and the usually 4 bristles 4.4–8 mm. long; typical *R. corniculata*, which abounds from Florida westward to Louisiana and extends northward to Delaware and Missouri, having the achenes 5–6 mm. long, 2.8–3.3 mm. broad, the tubercle 1.5–1.8 mm. long, and the 5–7 very short bristles at most 3–4 mm. in length. Chapman's plant seems, therefore, to be a definite species, but, in view of the fact that there are already species bearing the names *R. patula* and *R. Chapmanii*, another name is necessary for it. It is, therefore, a pleasure to commemorate in the name of this species the discrimination of that prince of students of the *Cyperaceae*, John Carey, who marked upon one of the Chapman sheets in the Gray Herbarium "These specimens incline me to think that this is indeed a good species." This species is then

¹ Chapman, Fl. 529 (1860).

RYNCHOSPORA **Careyana**, n. nom. *Ceratoschoenus macrostachyus*, var. *patulus* Chapman, Fl. 529 (1860). *R. corniculata*, var. *patula* Britton, Trans. N. Y. Sci. xi. 84 (1892). *R. macrostachya*, var. *patula* Chapman, Fl. ed. 3, 556 (1897).

Typical *R. corniculata* (Lam.) Gray has the achenes round-obovate and twice as broad as the base of the tubercle, the achenes measuring 5–6 mm. long, 2.8–3.3 mm. broad. This plant, as already stated, extends from Florida northward to Delaware and westward to Louisiana, thence north to Missouri. The commoner plant westward, in Texas and Arkansas, locally northward to Indiana and occasionally eastward to Alabama, has a more slender achene which at the summit is scarcely broader than the base of the tubercle, so that the two seem nearly confluent. In this plant the somewhat duller achenes measure 4.5–5.3 mm. long, 2.4–2.6 mm. broad, but its perianth-bristles and aspect are quite like those of typical *R. corniculata*. Differing only in the much narrower and somewhat shorter achene and conspicuously overlapping the range of *R. corniculata*, the plant is probably best treated as a geographic variety, which is here proposed as

RYNCHOSPORA CORNICULATA (Lam.) Gray, var. **interior**, n. var., acheniis fuscis 4.5–5.3 mm. longis 2.4–2.6 mm. latis cum tuberculis subconfluentibus.—Alabama to Texas, Arkansas, and Indiana. TYPE: swamps, southern Arkansas, *F. L. Harvey*, no. 24 (Gray Herb.).

Briefly summarized the distinctions between the species above discussed may be stated as follows:

Bristles mostly exceeding the achene; the longest 4.4–14 mm. long.

Plant non-stoloniferous: inflorescence fastigiata; the primary glomerules with 10–50 spikelets; achene 5–6 mm. long: tubercle 1.9–2.2 cm. long: bristles 6, 1.1–1.4 cm. long.....*R. macrostachya* Torr.

Plant loosely stoloniferous: inflorescence diffuse; the primary glomerules with few spikelets: achene 4.2–4.8 mm. long: tubercle 1–1.8 cm. long: bristles 4–6, the longer 4.4–11 mm. long.

Achene 2.2–2.6 mm. broad; tubercle 1.5–1.7 cm. long: bristles 6 (rarely 5), the longest 9–11 mm. long.*R. inundata* (Oakes) Fernald.

Achene 3–3.5 mm. broad; tubercle 1–1.4 cm. long: bristles 4 (rarely 5 or 6), the longest 4.4–8 mm. long.*R. Careyana* Fernald.

Bristles much shorter than the achene, all but 1–3 very short or nearly obsolete; the longest 2.5–4 mm. long: plant apparently not stoloniferous.¹

Achene 5–6 mm. long, 2.8–3.3 mm. broad, twice as broad as the base of the tubercle.*R. corniculata* (Lam.) Gray.

Achene 4.4–5.3 mm. long, 2.4–2.6 mm. broad, the summit scarcely broader than the base of the tubercle.*R. corniculata*, var. *interior* Fernald.

GRAY HERBARIUM.

¹ The herbarium material shows only fragmentary bases but these lack the loosely divergent stolons so characteristic of *R. inundata* and of *R. Careyana*. Further observations and better collections may show definite stolons in *R. corniculata*.